

ORIGINAL

BEFORE THE
Federal Communications Commission

WASHINGTON, D.C. 20554

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JUN 13 1997

Federal Communications Commission
Office of Secretary

In the Matter of)

Advance Television Systems)
and Their Impact Upon The)
Existing Television Broadcast)
Service)

DOCKET FILE COPY ORIGINAL
MM Docket No. 87-268

PETITION FOR RECONSIDERATION

Gateway Communications, Inc. ("Gateway"), by its counsel, hereby petitions the Commission to reconsider its Sixth Report and Order (the "Order") in the captioned proceeding.^{1/}
In furtherance whereof the following is shown.

Preliminary Statement

Gateway is the licensee of full-power television stations WBNG-TV, Binghamton, New York; WTAJ-TV, Altoona, Pennsylvania; WOWK-TV, Huntington, West Virginia, and WLYH-TV, Lancaster, Pennsylvania. The DTV Table of Allotments (Order, Appendix B) specifies a DTV channel for each of those stations. Upon the release of the Order, Gateway undertook and has persisted in an extensive analysis of the now decreed DTV allotments for its own stations, and certain others, to determine their impact upon the station's service capabilities, both in an NTSC and DTV mode. It is reasonably apparent, however, that such an analysis cannot be completed with requisite precision due principally to the failure of the Commission adequately to have revealed critical elements of the underlying methodology employed in developing its DTV table of allotments.

^{1/} FCC 97-115, released April 21, 1997 (62 FR 26684, May 14, 1997). Gateway had filed comments in the proceeding below (see Order, Appendix C).

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Given the foregoing circumstance, Gateway respectfully requests that, upon reconsideration, the Commission suspend the effectiveness of the existing DTV table of allotments and defer the issuance of a further table until such time as Gateway -- and the affected television universe generally -- is provided access to the requisite underlying data and afforded a reasonable opportunity further to assess relevant DTV allotments and offer comments thereon.

Notwithstanding the fundamental infirmity described, there are certain aspects of the Order which do now admit of complete analysis and warrant reconsideration, as also shown below.

Exposition

Inadequate and Underlying Data

The attached Engineering Statement (the "Statement") describes in detail the data and information which is required -- but has not yet been made available -- in order for Gateway to make a critical and independent evaluation of the DTV allotments relevant to the operations of its stations. (Statement, pages 2-3). It is there noted, for instance, that the methodology employed by the Commission in calculating DTV coverage interference is explained in "OET Bulletin 69" but that that critical document has not been released by the Commission. The Statement describes the practical respects in which such data is critical and correctly concludes that "the FCC DTV methodology" needs to be fully explained and well understood before a meaningful DTV station implementation program can be developed. (page 3).

As noted at the outset, it is clear that, upon reconsideration, the Commission must take this essential infirmity into account and provide a meaningful opportunity for affected parties, including Gateway, further to analyze and comment upon DTV allotments relevant to their operations.

Specific Allotment Concerns/Modifications

Presently available data reflect that Gateway's Station WOWK-TV, Huntington, West Virginia, will receive interference from the co-channel DTV allotment now specified for Television Station WSYX, Columbus, Ohio. The attached Statement describes the likely extent of such interference to WOWK-TV in an NTSC mode (Statement, page 4). It is requested that, upon reconsideration, the Commission determine whether a different, non-interfering DTV allotment may be made for Station WSYX and, if so, that it modify the table of allotments accordingly.

The attached Statement also demonstrates that the present DTV allotments present a substantial likelihood of unacceptable interference occasioned by the allotment of DTV Channel 54 to Gateway's Station WOWK-TV, and the allotment of DTV Channel 55 to Station WCHS, Charleston, West Virginia (Statement, pages 5-6). It is also shown there that such interference would be obviated by now modifying the table to allot DTV Channel 39 to Station WOWK-TV in lieu of its present Channel 54 allotment, and in turn to allot Channel 54 to the unbuilt construction permit (BMPCT-8910131KI) for Station WKRP-TV, Charleston, West Virginia, in lieu of the present Channel 39 DTV allotment to that entity.

Other Considerations

At page 5, the attached Statement demonstrates the uncertainty, and related problem, occasioned by the prospect that side-mounted DTV antennas will be unable to achieve the pattern replication envisioned by the Commission. By way of example, the Statement assumes that Gateway's Station WTAJ, Altoona, Pennsylvania, will initially be required to operate in a side-mounted mode and shows the substantial coverage short-fall potentially involved. Given that this phenomenon may well affect all of Gateway's stations, and likely many more throughout the

country, it is respectfully requested that, upon reconsideration, the Commission acknowledge such prospects and specifically provide for the use of additional power and/or other means where necessary to substantially replicate the envisioned DTV pattern.

The attached Statement also addresses other matters deemed by Gateway to warrant the Commission's attention and possible action upon reconsideration, i.e., provisions allowing stations to return to their NTSC channel for their DTV operations; the imposition of separation standards for new DTV operations, and suggested forbearance from the use of industry coordinating committees (Statement, "Other Issues," page 6).


CONCLUSION

Gateway respectfully submits that the foregoing matters warrant Commission reconsideration and appropriate actions.

Respectfully submitted,

GATEWAY COMMUNICATIONS, INC.

By


John R. Wilner
Edward S. O'Neill

Its Attorneys
Bryan Cave LLP
700 Thirteenth Street, N.W.
Washington, DC 20005
(202) 508-6000

June 13, 1997

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**ENGINEERING STATEMENT
IN SUPPORT OF
PETITION FOR RECONSIDERATION
MM DOCKET 87-268
ON BEHALF OF
GATEWAY COMMUNICATIONS, INC.**

JUNE 1997

**COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.**

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

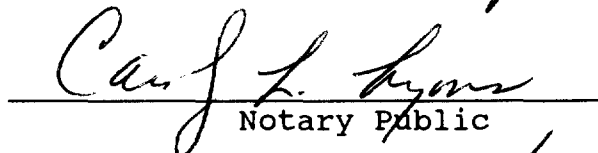
That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.



Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 11th day of June, 1997.



Notary Public

My Commission Expires: 2/28/98

This engineering statement has been prepared on behalf of Gateway Communications, Inc. ("Gateway"), licensee of Stations WBNG-TV, Binghamton, New York; WTAJ-TV, Altoona, Pennsylvania and WOWK-TV, Huntington, West Virginia; and WLYH-TV, Lancaster, Pennsylvania. Three stations operate on high-band VHF Channels 12, 10, and 13 respectively. WLYH(TV) operates on UHF Channel 15. This statement is in support of a Petition for Reconsideration of the Sixth Report and Order, MM Docket No. 87-268¹ ("Report and Order"), adopted by the Federal Communications Commission ("Commission").

Gateway has authorized this firm to conduct studies on the various aspects of the Report and Order as it applies to its stations. This study was conducted on the impact of the Report and Order on their current NTSC service areas; the interference which could result to existing service by new digital operations and the service replication by the assigned digital television ("DTV") operation for each station.

Each Gateway station operates in generally rugged and mountainous terrain. Gateway is very familiar with providing a quality off-the-air signal in this difficult terrain environment.

¹MM Docket No. 87-268, "In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service," adopted April 3, 1997.

This engineering statement focuses on both the general overall concerns of Gateway as well as specific areas which Gateway finds of critical importance.

COVERAGE ASSESSMENT

A study of the Gateway stations, existing NTSC, and proposed DTV service areas has been performed by the National Telecommunications and Information Administration Institute for Telecommunication Sciences ("ITS") computer using the Communication System Performance Model--Point to Point Irregular Terrain HDTV Model ("HDTV model"). The HDTV model uses the Longley-Rice propagation methodology and evaluates in grid cell size of 0.75-1.5 km with 3-second terrain data intervals between every 90 meters to 100 meters at one degree intervals. This HDTV model was selected since it is believed it generally replicates the Commission's DTV assignment model. An ITS representative believes its model follows the Commission's decisions in the Report and Order.

EVALUATION CONCERNS

The Commission in its proposed rules, Sections 73.622 and 73.623, specifies that OET Bulletin 69 will provide the details of its calculation methodology for coverage and interference. These are two critical engineering components for any evaluation. This document has not been released by the Commission. Further, the Report and Order does not disclose how the DTV assignments were made.

Without full knowledge of the Commission's calculation methodology for service and interference and the DTV frequency assignment methodology Gateway is prevented from making critical independent evaluation of what impact any DTV operation may have on the NTSC current service by any of its stations and whether a different DTV channel needs to be specified.

However, while it is useful to refer to the HDTV model, it does not provide the guidance needed for the Longley-Rice model information used by the Commission to determine the DTV power to be authorized and the process by which the DTV frequency was selected. Without that determination, Gateway cannot make an assessment whether its inherent service area is being adequately protected or whether it is replicated. Until such specific information is available, no meaningful technical evaluations can be made. Incomplete information regarding FCC criteria and procedures will hamper Gateway from making an evaluation whether an increase in power is required. Gateway will, if necessary, make application for higher DTV power. Also, this information has a direct impact on equipment selection decisions such as antenna and DTV power to be used during the transition period. The FCC DTV methodology needs to be fully explained and well understood before a meaningful DTV station implementation program can be developed.

Gateway operates all of its NTSC stations with non-directional antennas. All transmitting antennas are top-mounted. While Gateway owns its tower facilities at each

of its VHF stations, initially it may need to side-mount the DTV antennas. There is no assurance that a side-mounted DTV antenna will replicate the directional pattern that is envisioned for the DTV operation. For example, the WTAJ DTV reference ratio pattern varies from 1.0 to 0.664. This represents a differential in terms of DTV power from 1000 kW to 440 kW. There is no assurance that WTAJ can achieve that pattern with a side-mounted DTV antenna. Obviously if pattern replication is placed in doubt, the replicated service area projected by the Commission cannot be achieved.

There are two factors of particular concern to Gateway since it has a station (WOWK-TV) that has service in the area in which DTV interference is predicted.

Gateway is specifically concerned about the interference it will receive from a co-channel DTV allocation in Columbus, Ohio to its Channel 13 NTSC operation.

The preliminary assessment is that WOWK-TV will receive interference to its current NTSC (northwestern) service area. This service area is very important to WOWK-TV because the station carries Ohio University sports of particular interest to viewers in the affected counties. The station reports that it serves a number of off-the-air households in this area. Furthermore, WOWK-TV reports that it is carried on a number of cable systems whose headends are located in the Counties of Vinton, Meigs, Jackson and portions of Scioto.

In addition, Gateway is concerned that the WOWK-TV allotment (Channel 54) has a first-adjacent channel DTV (Channel 55) located in the same market with transmitter sites separated by 28.8 km (17.9 miles). Based upon tests in October 1996 by the Advanced Television Technology Center, Gateway believes that the first-adjacent channel criteria adopted for the Commission's model is overly optimistic. The HDTV model's first adjacent channel ratios are based upon data derived using a linear (Class A) test bed. The high average UHF powers for these two DTV facilities (over 400 kW) can only be generated by R-F amplifiers operating in the Class A-B mode. It is well known that generating high levels of R-F power in any device that is not absolutely linear will result in intermodulation products which will require extra engineering consideration. In addition, non-linear propagation path effects such as multipath, very prevalent in the West Virginia area, are engineering concerns that need to be factored into the received signal conditions. Gateway strongly recommends the Commission re-examine these issues and modify them appropriately.

However, Gateway has identified a possible solution to resolve the interference condition which is reflected in the DTV study conducted by using the HDTV model. This study is attached and demonstrates the predicted interference to Kanawha and surrounding counties. These counties form the economic base for this area of West Virginia and are of prime importance to WOWK-TV. Gateway proposes to switch DTV Channel 39

assigned to WKRP-TV who is permittee of BMPCT-891031KI for the WOWK-TV, Channel 54 DTV allotment. Since the WKRP-TV allocation site specified is closer (13.1 km, 8.1 miles) to the assigned Channel 55 allocation, this will assist the Commission in achieving a more efficient use of valuable spectrum. Gateway urges the Commission to examine this alternative.

OTHER ISSUES

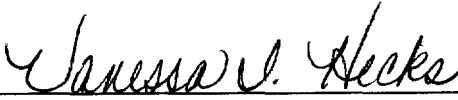
Gateway supports the concept of stations returning to their assigned NTSC channel for its DTV operation. Therefore, Gateway urges the Commission to give preference to those stations who desire to return to their licensed NTSC channel that is within the core spectrum. Gateway also urges that the Commission only authorize new DTV facilities for other existing NTSC operations at distances equal to or greater than the separations specified in Section 73.623(d). Gateway does not favor regional industry coordinating committees, except for a narrow-limited technical role.

CERTIFICATE OF SERVICE

I, Vanessa I. Hicks, hereby certify that the foregoing "Petition for Reconsideration" was mailed, first class, postage prepaid, on June 13th, 1997, to the following:

Television Station WSYX
1261 Dublin Road
Columbus, OH 43215

Television Station WKRP
26 Seneca Hills
Elkview, West Virginia 25701



Vanessa I. Hicks

June 13, 1997